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MINERALS PROGRAM
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MAR 28 1991

DIVISION OF
OIL GAS & MINING

March 25, 1991

Mr. Ed King
Jumbo Mining Company
6305 Fern Spring Cove
Austin, TX 78730

RE: Review of Amended Ground Water
Discharge Permit Application

Dear Mr. King:

We have reviewed Jumbo Mining Company's amended ground water discharge permit application. Several issues need to be resolved before a draft permit can be issued.

We are particularly concerned with the ability to develop a viable compliance monitoring plan for the two existing leach pads for permitted operation subsequent to showing any positive results from the 60-day leak test. Compliance monitoring should demonstrate conclusively that the leach pads do not leak, not just detect a major release. While it is possible that a combination of the various methods we have suggested in past correspondence may allow this determination with some certainty, Jumbo should carefully evaluate the feasibility of devising such a plan before pursuing this option. A permit cannot be issued for these existing pads without the development of an acceptable compliance monitoring plan.

The amended application states Jumbo's willingness to construct the new leach pad according to a design that will detect and contain any leakage. The ground water discharge permit can only be issued upon submission of plans for the new pad and process ponds and concurrent issuance of a construction permit by the Bureau of Water Pollution Control. We strongly suggest that you consult with the Design Evaluation Section of this Bureau in the development of these plans, as the standards of best available technology for leach facilities are currently being revised.

Data submitted with the amended application shows chloride-rich water in the perched aquifer at the new leach pad site. This, along with cyanide detections in three wells in this area, suggests that a significant portion of the water in this aquifer may have come from previous mining-related activities at this site. If this were the case, the perched aquifer could not be used for compliance monitoring. However, if the new leach pad was properly constructed, compliance monitoring could be done through the leak detection system without relying on ground water monitoring.

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Jumbo has yet to conduct a complete investigation into the extent and severity of this contamination as we requested in our letters of July 2, 1990 and January 10, 1991. At a minimum, this investigation should analyze samples from all drill holes which encounter perched water. If any of these drill holes are cased and screened, Jumbo should provide information on the well construction, to show the depth from which the sample was taken. Analyses should include those parameters listed in our letter of January 10, 1991, as well as total cyanide and major metals present in the process solutions. These analyses should be compared with analyses of uncontaminated water at the site (Busby Spring), the mine's water supply well, and any available information on the chemistry of process solutions previously used at the site. It is in Jumbo's interest to document water quality at this site, so existing contamination will not be attributed to Jumbo's activities conducted under this permit. It is possible that some ground water monitoring will be called for in the permit to document any changes in water quality.

Closure plans filed by Jumbo's predecessor at this site would have been devised before the current ground water regulations went into effect and, therefore, would not have specifically addressed prevention of ground water contamination after site closure. Conceptual closure plans for all leach pads at the site must be submitted for Bureau review and approval before any operation of the facility. The plans should show what procedures would be used to meet ground water protection standards after leaching is finished. Criteria for the closure and post-closure plans will be addressed when the draft permit is issued.

Should you need further clarification of the above issues please contact Mark Novak at (801) 538-6146.

Sincerely,



Fred C. Pehrson, P.E., Manager
Permitting, Compliance & Monitoring Branch
Bureau of Water Pollution Control

FCP:MN:rp

cc: Wayne Hedberg, Division of Oil, Gas, and Mining
Roger Foisy, District Engineer
Central Utah District Health Department

Q:JUMAMD.LTR